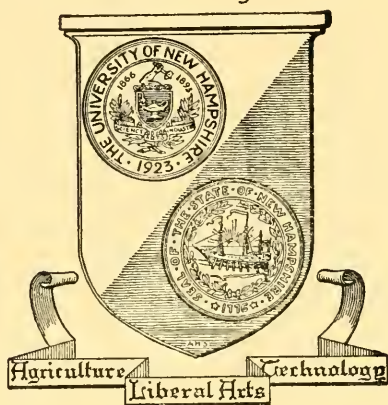


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PERFORMANCE OF STRAWBERRY VARIETIES IN NEW HAMPSHIRE

by L. P. LATIMER



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Performance of Strawberry Varieties In New Hampshire

By L. P. LATIMER, *Assistant Horticulturist*

HOWARD 17 HAS LONG BEEN the leading commercial strawberry in New Hampshire. It has held this place because of its consistently dependable yield of fruit, freedom from disease, and adaptability to many soil types, especially those of light texture which are common in many sections. Furthermore, Howard 17 is somewhat resistant to mild drought and resists frost during the blossom period.

The chief faults of this variety are the production of small berries during the latter half of the harvest period and soft fruit during very



Catskill is a good variety for special locations and for home use

warm weather, and the fact that the fruit usually ripens at a time when there is strong competition with berries shipped in from sections south of New Hampshire.

Howard 17 is used as a measuring stick in evaluating new varieties and recording their characteristics in the University of New Hampshire variety tests.

METHODS

Beginning in 1934, strawberry variety tests were conducted so that the results could be subjected to statistical analysis. Previous to 1941, randomized complete block designs were employed, usually with four replications. As a large number of varieties were to be treated in 1941-1942 the use of a randomized complete block design was questioned both because of the relatively small amount of land available and the lack of knowledge concerning soil uniformity in this area. Arrangement of the plots in a Latin square was ruled out principally because the number of replicates would require a much larger area of land than was available. The writer, therefore, adopted a lattice design similar to that used by Cox, Eckhardt, and Cochran¹ for testing varieties of corn in Iowa. This design was selected on the basis of their statement that "as the number of varieties increases, these designs (*i.e.*, Latin square and randomized complete blocks) may become less efficient through failure to eliminate soil heterogeneity. Furthermore, the Latin square design becomes cumbersome because it requires replicates equal in number to the varieties."

In 1941, two lattice designs were set up, one consisting of 25 varieties dug from the field and transplanted the same day and the other of 16 varieties, 13 of which were obtained from distant commercial nurseries. It was deemed advisable to plant the "shipped-in" plants in a separate lattice because previous experience had shown that such plants sometimes fail to become established as quickly as field-dug plants. Fresh-dug Howard 17, Fairfax, and Pathfinder plants were included in this smaller lattice so that direct comparisons could be made with the varieties in the larger lattice. All transplants were selected for uniformity of size and vigor.

In all years individual plots consisted of short lengths of single rows, and the data collected were subjected to analysis of variance.

Plants were transplanted into the plots in May of each year beginning with 1934. They were grown by the matted row system, and the fruit harvested the summer of the year next following planting. Only one crop of fruit was harvested from a given planting.

RESULTS

Yield. Varietal yield from 1935 to 1942 is presented in *Table 1*, and yield compared to Howard 17 for the same period on a percentage basis is presented in *Table 2*. In 1935, Aberdeen, Clermont, Dorsett, Dunlap, Fairfax, and Stevens Late outyielded Howard 17, largely because the Howard 17 plants were attacked by cyclamen mite and suffered more or

¹Cox, Gertrude M., Eckhardt, Robert C., and Cochran, W. G. The analysis of lattice and tripple lattice experiments in corn varietal tests. Iowa Agr. Exp. Sta. Res. Bul. 281: 1939.

Table 1.—Yield, Quarts per Acre

Variety	Year							
	1942	1942	1941	1940	1939	1938	1937	1935
Howard 17	5000	8190	9380	7040	5300	4900	6000	2240
Aberdeen							5790	4350**
Ambrosia	2700**		4930**					
Beaver	6530							
Belmar								2210
Blakemore								1900
Bliss								1600*
Camden								1840
Cato					7120*	4390	4280*	2690
Catskill		6600*			5250	2600**	6200	1530*
Claribel	2760*							
Clermont								3010**
Commonwealth						2500**	1750**	2690
Cresco		7620						
Culver					5370	2290**		
Daybreak	2230**							
Dorsett	2920*				4260	2850**	4400*	3980*
Dresden	7530**		10650					
Dunlap								3090**
Eleanor Roosevelt		2860**						
Fairmore		3650**						
Fairfax	3030*	4260**			4060	2560**	3580**	4520**
Ford					1780**	4170		
Frostproof	5200		8690					
Fujiyama	3770		740					
Grand Champion	3145*		440					
Green Mountain	3980		4390**					
Hebron		4750**						
Howard Supreme								2410
Joe								1730
Joyce				4640**	2320*			
Jumbo		1970**						
Jupiter				4960**	1170**			
Late Giant	3860		5890**					
Lavergne	1390**							
Lupton					2170**	1210**		
Majestic		5720**						
Maytime		3830**						
Meighan	1020**							
Nancy Lee	3610		6180**					
Narcissa	3430		2800**					
Neet		3120**						
New York	1250**		1140**					
Nich Ohmer			2240**					
North Star	1090**		2380**					
Orem						1150**	1950**	
Ottawa 27-03-20	1890**							
Pathfinder	7080*	9090	12090**	9070**	4820			
Pearl						930**	2280**	
Red Gold	4530		7350**					
Redheart							1360**	
Red Star		5310**						
Ridgeley	4360		5070**					
Shelton	4020		7200**					
Starbright		2670**						
Stevens Late							3620**	
Townking				5070**	2380**			
Tupper	4280							
Worlds Wonder				4130**	2890**			
Xtralate					1800**	1920**		
XX Banner		4160**						

*Significant difference at 5 per cent level (compared with Howard 17).

**Significant difference at 1 per cent (compared with Howard 17).

less from June Yellows. Subsequent plantings of Howard 17 were free from these troubles.

Cato produced more fruit than Howard 17 in 1939. Pathfinder in 1940, 1941 and 1942 and Dresden in 1942 also produced more fruit than Howard 17. Thus, of the varieties tested, Pathfinder alone has rather consistently outyielded Howard 17.

Table 2.—Percentage Yield Compared with Howard 17

Variety	Year							
	1942	1942	1941	1940	1939	1938	1937	1935
Howard 17	100	100	100	100	100	100	100	100
Aberdeen							96	204**
Ambrosia	54**		53**					
Beaver	131							
Belmar								99
Blakemore								85
Bliss								71*
Camden								82
Cato					134*	90	71*	120
Catskill		81*			99	53**	103	68*
Claribel	55**							
Clermont								134**
Commonwealth						51**	29**	120
Cresco		93						
Culver					101	47**		
Daybreak		27**						
Dorsett	58**				80	58**	73*	178**
Dresden	151**		114					
Dunlap								138**
Eleanor Roosevelt		35**						
Fairmore		45**						
Fairfax	61*	52**			77	52**	60**	212**
Ford					34**	85		
Frostproof	104		93					
Fujiyama	75		8**					
Grand Champion	63*		5**					
Green Mountain	80		47**					
Hebron		58**						
Howard Supreme								109
Joe								77
Joyce				66**	44**			
Jumbo		24**						
Jupiter				70**	22**			
Late Giant	77		63**					
Lavergne	28**							
Lupton					31**	23**		
Majestic		70**						
Maytime		47**						
Meighan	20**							
Nancy Lee	72		66**					
Narcissa	69		30**					
Neet		39**						
New York	25**		12**					
Nich Ohmer			24**					
North Star	22**		25**					
Orem						23**	33**	
Ottawa 27-03-20	38**							
Pathfinder	142**	111	129**	129**	91	19**	38**	
Pearl								
Red Gold	91		78**					
Redheart							23**	
Red Star		65**						
Ridgeley	87		54**					
Shelton	80		77**					
Starbright		33**						
Stevens Late								146**
Townking				58**	45**			
Tupper	86							
Worlds Wonder				59**	54**			
Xtralate					34**	39**		
XX Banner		51**						

*Significant difference at 5 per cent level.

**Significant difference at 1 per cent level.

In 1942, 11 varieties yielded nearly the same amount of fruit as Howard 17 (within the limits of statistical significance) while 23 varieties produced significantly less fruit. During the period 1935 to 1942, Daybreak, Eleanor Roosevelt, Fairmore, Jumbo, Lavergne, Maytime, Meighan, Neet, New York, North Star, Ottawa 27-03-20, Starbright, Ford, Lupton, Orem, Pearl, and Redheart have produced only one-half to one-

fourth as much fruit as Howard 17, and are not recommended for growing in New Hampshire on that account.

Season of Ripening. The dates on which a cumulative of 25, 50, and 75 per cent of the total crop had been harvested was calculated for each variety and then compared to the date when equal amounts of the Howard 17 crop were harvested. The relative ripening seasons of the

Table 3.—Days Later than Howard 17

Variety	Year							
	1942	1942	1941	1940	1939	1938	1938	1935
Aberdeen							5.2**	3.5**
Ambrosia	9.5**		5.9**					
Beaver	0.5							
Belmar								+0.7
Blakemore								+0.2
Bliss								2.1**
Camden								1.1*
Cato					1.3	1.5**	2.2**	0.2
Catskill		0.2			2.9**	3.4**	2.8**	0.8
Claribel	14.7**		10.7**					
Clermont								1.8*
Commonwealth						0.1	0.2	0.3
Cresco		0.4						
Culver					2.2**	1.5**		
Daybreak		+2.2**						
Dorsett	3.7**				1.6*	1.7**	0.5	0.8
Dresden	2.2*		1.7**					
Dunlap								+1.7**
Eleanor Roosevelt		+2.2**						
Fairmore		1.6**						
Fairfax	4.5**	2.7**			4.2**	2.3**	4.5**	3.0**
Ford					1.0	1.9**		
Frostproof	0.3		1.3**					
Fujiyama	5.0**							
Grand Champion	4.5**							
Green Mountain	2.0**		1.5**					
Hebron		4.6**						
Howard 17	0	0	0	0	0	0	0	0
Howard Supreme								1.6**
Joe								1.3**
Joyce				1.7**	2.9**			
Jumbo		2.7**						
Jupiter				0	1.3			
Late Giant	5.3**		4.8**					
Lavergne	13.0**		9.0**					
Lupton						2.4**	2.5**	
Majestic		+0.5						
Maytime		0						
Meighan	10.7**		9.5**					
Nancy Lee	+1.0		+0.7					
Narcissa	0.3		+1.2**					
Neet		0.3						
New York	2.7**		3.3**					
Nich Ohmer			4.2**					
North Star	1.2		1.4**					
Orem						4.9**	8.3**	
Ottawa 27-03-20	14.3**		11.7**					
Pathfinder	+0.2	+0.6	0.5	0.3	0.2			
Pearl						4.9**	7.5**	
Red Gold	2.7**		3.0**					
Redheart								1.8**
Red Star		11.0**						
Ridgeley	3.7**		1.5**					
Shelton	1.5		+0.6					
Starbright		2.4**						
Stevens Late								3.3**
Townking				4.3**	3.9**			
Tupper	9.7**		8.2**					
Worlds Wonder				3.0**	4.4**			
Xtralate						4.7**	3.3**	
XX Banner		1.4**						

*Significant differences at 5 per cent level.

**Significant difference at 1 per cent level.

various varieties, thus calculated, are presented in *Table 3*. Howard 17 ranks with the 18 earliest ripening sorts on trial from 1935 to 1942, while 43 varieties ripened fruit one or more days later than Howard 17. In some seasons, however, there was some variation in comparative ripening dates between different varieties.

Outstanding for lateness of fruit maturity were Claribel, Lavergne, Meighan, Ottawa 27-03-20, Red Star, and Tupper, which ripened eight to 14 days later than Howard 17, while Orem, Pearl, Late Giant, and Ambrosia ripened five to nine days later than Howard 17. All these varieties except Tupper, however, yielded significantly less fruit than Howard 17, but Tupper produced fruit too soft to be of market value. Aberdeen, a high-yielding variety, ripened three to five days later than Howard 17.

Fruit Size. The average weight of berries on different picking dates is shown for 1935, 1940 and 1942 respectively in *Tables 4, 5, and 6*, while the relative size compared with Howard 17 is shown in *Tables 7, 8, and 9*. With the exception of a few varieties, the berries of the first

Table 4.—Average Size per Berry (Grams) 1935

Variety	Picking Date					Significant Difference Between Dates at		
	24	June 26	28	1	July 5	10	5% level	1% level
Howard 17	7.5	5.3	5.3	4.5	3.0	3.1	0.8	1.1
Aberdeen	10.0*	8.9**	9.3**	7.3**	4.9**	5.0**	1.0	1.4
Belmar	8.1	8.5**	5.6	3.6	2.9	2.0**	1.8	2.5
Blakemore	7.8	4.9	3.9	3.2*	2.9	2.0**	1.5	2.1
Bliss	10.0*	10.0**	9.2**	6.5**	4.4**	3.6	1.5	2.1
Cato	12.3**	8.4**	7.3*	5.5*	3.7	3.2	0.9	1.3
Catskill	15.2**	12.5**	8.8**	7.6**	4.6**	3.7	1.7	2.4
Clermont	12.9**	9.7**	8.6**	7.0**	5.2**	7.3**	1.7	2.4
Commonwealth	10.6**	9.0**	8.3**	5.8*	3.3	2.8	2.1	2.9
Dorsett	11.2**	11.1**	8.8**	6.0**	3.2	2.7	2.4	3.3
Dunlap	5.6	4.1	4.7	2.5**	1.8*	1.3**	1.0	1.3
Fairfax	15.1**	14.0**	11.6**	8.5**	4.4**	4.0*	1.4	2.0
Howard Supreme	10.4*	8.9**	8.1**	5.8*	4.1*	3.9*	1.9	2.6
Joe	10.9**	9.7**	8.7**	6.4**	3.4	2.7	1.6	2.2
Redheart	15.4**	11.5**	10.9**	7.0**	3.6	3.2	1.8	2.5
Stevens Late	6.5	8.4**	13.2**	8.7**	5.4**	3.6	2.6	3.6

Significant difference between varieties

*5 per cent level 2.3 2.1 1.7 1.0 1.0 0.8

**1 per cent level 3.1 2.9 2.2 1.4 1.3 1.0

Table 5.—Average Size per Berry (Grams) 1940

Variety	Picking Date					Significant Difference Between Dates		
	1	3	5	July 8	11	15	5% level	1% level
Howard 17	8.4	6.0	5.2	4.1	4.4	4.6	0.8	1.1
Joyce	12.0**	8.3**	7.7**	6.0**	4.8	4.4	1.5	2.1
Jupiter	9.7	6.1	5.4	3.8	3.2**	2.2**	0.5	0.7
Pathfinder	10.7**	7.9**	6.8**	5.2**	5.3	6.3**	1.4	1.9
Townking	13.4**	11.2**	10.6**	8.3**	6.7**	4.9	1.1	1.5
Worlds Wonder	9.0	7.3*	7.7**	6.1**	4.6	4.5	0.9	1.2

Significant difference between varieties

*5 per cent level 1.7 1.1 1.0 0.7 0.8 0.9

**1 per cent level 2.3 1.4 1.3 0.9 1.0 1.2

Table 6.—Size per Berry (Grams) 1942

Variety	Picking Date						
	22	24	June 26	29	6	July 9	14
<i>Larger Lattice</i>							
Howard 17	8.0	5.2	4.5	4.2	4.4		
Ambrosia		9.8**	8.5**	7.9**	6.1**	4.4	
Beaver	6.9	6.2	4.9	4.4	4.7		
Claribel			14.2**	13.1**	8.0**	5.1	4.0
Dorsett	11.7**	8.3**	6.2*	5.3	3.6	3.8	4.2
Dresden	10.4**	11.4**	8.1**	7.7**	6.2**	6.6	
Fairfax	9.2	7.3**	5.5	4.9	4.0	2.6	
Frostproof	8.6	6.4	4.7	4.5	4.5		
Fujiyama	13.9**	10.1**	8.1**	6.1*	5.3		
Grand Champion	12.6**	9.7**	7.4**	6.5**	4.6	3.3	
Green Mountain	8.3	6.1	5.5	4.9	5.2		
Late Giant	11.5**	9.2**	7.2**	6.0**	4.9	3.5	
Lavergne			12.0**	7.7**	7.2**	4.6	3.7
Meighan			10.1**	8.5**	6.5**	5.0	5.0
Nancy Lee	5.4**	3.7	3.1	3.4			3.7
Narcissa	7.7	4.8	3.7	3.6			
New York	11.8**	8.8**	7.9**	5.4	6.2**		
North Star	12.7**	7.6**	7.6**	6.2**			
Ottawa 27-03-20			7.8**	9.1**	6.7**	5.3	3.8
Pathfinder	10.5**	6.9**	5.1	4.6	4.0	4.8	
Red Gold		6.0	5.4	4.9	4.9		
Ridgeley	9.3	7.0*	4.9	4.9	3.2		
Shelton	8.1	5.8	6.1*	4.2	3.7	3.2	
Tupper	10.8**	10.6**	8.8**	7.0**	4.3	5.0	
<i>Smaller Lattice</i>							
Howard 17	7.1	5.6	4.3	4.0	4.4		
Catskill	10.1**	6.6*	5.2	4.5	4.0		
Cresco	7.7	5.3	4.5	4.1	3.2		
Daybreak	6.0	4.1**	3.8	4.0			
Eleanor Roosevelt	7.3	5.5	4.2	4.0	2.6		
Fairmore	8.5	7.1**	4.9	4.2	3.4		
Fairfax	9.7**	5.9	5.0	4.4	3.5	3.0	
Hebron	10.6**	7.7**	6.1**	5.6**	4.0	3.7	3.9
Junbo	12.1**	8.8**	5.8**	5.0*	4.4		
Majestic	8.0	5.5	3.7	3.9	4.0		
Maytime	7.2	5.2	4.1	3.8	4.9		
Neet	11.0**	7.1**	5.5*	5.7**	5.0		
Patfinder	8.2	5.9	4.7	4.4	4.8		
Red Star		18.8**	9.7**	8.4**	7.4**	4.6	3.7
Starbright	9.4**	6.8**	5.4	4.9*	4.5	3.7	
XX Banner	10.9**	7.5**	6.2**	5.5**	5.2	4.8	6.1

*Significant difference at 5 per cent level (compared with Howard 17).

**Significant difference at 1 per cent level (compared with Howard 17).

Table 7.—Size of Berry (Comparative) 1935

Variety	Picking Date					
	24	June 26	28	1	July 5	10
Howard 17	100	100	100	100	100	100
Aberdeen	133*	168**	175**	162**	163**	161**
Belmar	108	160**	106	80	97	65**
Blakemore	104	92	74	71*	97	65**
Bliss	133*	189**	174**	144**	147**	116
Cato	164**	158*	138*	122*	123	103
Catskill	203**	236**	166**	169**	153**	119
Clermont	172**	183**	162**	156**	173**	235**
Commonwealth	141**	170**	157**	129*	110	90
Dorsett	149**	209**	166**	133**	107	87
Dunlap	75	77	89	56**	60*	58**
Fairfax	201**	264**	219**	189**	147**	129*
Howard Supreme	139*	168**	153**	129*	137**	126
Joe	145**	183**	164**	142**	113	87
Redheart	205**	217**	206**	156**	120	102
Stevens Late	87	158**	249**	193**	180**	116

*Significant difference at 5 per cent level (compared with Howard 17).

**Significant difference at 1 per cent level (compared with Howard 17).

Table 8.—Size of Berry (Comparative) 1940

Variety	Picking Date					
	1	3	5	8	11	15
Howard 17	100	100	100	100	100	100
Joyce	143**	138**	148**	146**	109	96
Jupiter	108	102	104	93	73**	48**
Patfinder	127**	132**	131**	127**	120*	137**
Townking	159**	187**	204**	202**	152**	107
Worlds Wonder	107	122*	148**	149**	105	93

*Significant difference at 5 per cent level (compared with Howard 17).

**Significant difference at 1 per cent level (compared with Howard 17).

Table 9.—Size of Berry (Comparative) 1942

Variety	Picking Date				
	22	June 24	26	29	July 6
<i>Larger Lattice</i>					
Howard 17	100	100	100	100	100
Ambrosia		188**	189**	188**	139**
Beaver	86	119	107	105	107
Claribel			316**	312**	182**
Dorsett	146**	160**	138**	126	82
Dresden	130**	219**	180**	183**	141**
Fairfax	115	140	122	117	91
Frostproof	107	123	104	107	102
Fujiyama	174**	194**	180**	145*	120
Grand Champion	157**	187**	164**	155**	105
Green Mountain	104	117	122	117	118
Late Giant	144**	177**	160**	143*	111
Lavergne			267**	183**	164**
Meighan			224**	202**	148**
Nancy Lee	67**	71	69	81	
Narcissa	96	92	82	86	
New York	147**	169**	129	141**	
North Star	159**	146**	169**	148**	
Ottawa 27-03-20			173**	217**	152**
Patfinder	131**	133**	113	110	91
Red Gold	110	115	120	117	111
Ridgeley	116	135*	109	117	73
Shelton	101	111	136*	100	84
Tupper	135**	204**	196**	167**	98
<i>Smaller Lattice</i>					
Howard 17	100	100	100	100	100
Catskill	142**	118*	121	112	91
Cresco	108	95	105	102	73
Daybreak	84	73**	88	100	
Fairmore	120	127**	114	105	77
Fairfax	137**	105	116	110	80
Hebron	149**	137**	142**	140**	91
Junbo	170**	157**	135*	125*	100
Majestic	113	98	86	97	91
Maytime	101	93	95	95	111
Neet	155**	127**	128**	142**	125
Pathfinder	115	105	109	110	109
Red Star		336**	225**	210**	168**
Starbright	132**	121*	126	122**	102
XX Banner	136**	134**	144**	137**	118

*Significant difference at 5 per cent level (compared with Howard 17).

**Significant difference at 1 per cent level (Compared with Howard 17)

picking were the largest of any picked during the season. In 1935, more varieties surpassed Howard 17 in size of berry in the first than in the last picking. Clermont, Fairfax, Aberdeen, and Howard Supreme were superior to Howard 17 in size throughout the season, while all varieties except Dunlap and Blakemore exceeded Howard 17 in size of fruit in the

first four pickings. Although they produced large fruit, Clermont was susceptible to leaf spot and Fairfax was not dependable from the standpoint of yield because of frequent damage to the blossoms. Aberdeen has been grown profitably in a few areas, especially where a good berry market is located near by.

In 1940, fruit of Pathfinder and Townking averaged better size throughout the season than that of Howard 17. The yield of Townking, however, was only about half that of Howard 17 and is not recommended for commercial planting.

In 1942, many varieties under test produced larger fruit than Howard 17, yet defects of these varieties overbalanced the desirable size, rendering them inferior commercially to Howard 17.

Good size, especially late in the season, is a highly desirable characteristic but to be commercially profitable a variety must possess a sum total of other characteristics equal to, or better than Howard 17.

Many of the varieties under test have exceeded Howard 17 in one or more of the characteristics, size, yield, and lateness of ripening; yet none have surpassed Howard 17 in all characteristics. Pathfinder, alone, has not fallen below Howard 17 in all characteristics. The season of ripening for Pathfinder is about the same as for Howard 17, or even slightly longer. The berries of Pathfinder are slightly firmer and more uniform in size than those of Howard 17, and, in some years, average slightly better in size throughout the season. The uniformity of fruit size, excellent shape, and bright glossy red color of the berries make Pathfinder outstanding among the 61 varieties tested from 1935 to 1942.

Discussion. Unfortunately, the varieties which matured their fruit late possessed defects in other characteristics. This renders them inferior to Howard 17 from a commercial point of view. Thus, Claribel, Lavergne, Meighan, and Ottawa 27-03-20 were found to be too susceptible to leaf spot and gave yields too low to warrant recommending them for commercial purposes. Tupper matured late, yielded well, and produced large, attractive berries, but these lacked flavor and were too soft for a commercial berry. Ambrosia produced large berries but too few of them, the yield being too low for either commercial or home-growing purposes. Red Star gave a yield comparable to Tupper. The berries of Red Star were large, well colored, and of good flavor. This variety was retained for further trial. Cresco yielded the same amount of fruit as Howard 17, but was so similar to that variety in all other characteristics that it could hardly be considered enough different to warrant its introduction into New Hampshire for commercial production. Tupper, Red Star, and Claribel are being used as parents in strawberry improvement work at this station on account of late fruit maturity. Tupper is used also because of its good yield of large, attractive berries. Fairfax is used because of firm fruit of high quality, and Catskill because of large, fine-flavored fruit.

Pathfinder may offer Howard 17 some competition as a commercial variety. It gave consistently high yields of very uniform, bright red fruit. The plants of Pathfinder have maintained high vigor and freedom

from disease over a period of several years. Although Dresden showed a tendency to exceed Howard 17 in yield and size of fruit, it more recently has shown a tendency to be somewhat susceptible to disease.

Although other varieties were inferior to Howard 17 in one or more characteristics, Catskill is considered a good variety for special locations and for home use, producing fruit that is larger, firmer, and of better flavor than Howard 17.

Summary and Conclusions. On the basis of the data obtained, Howard 17 still maintains a favorable position in New Hampshire with relation to yield. Pathfinder alone compared favorably with Howard 17 as a possible choice for commercial planting.

